



PIFSC Fishery Dependent Data for Insular Fisheries: Hawaii Bottomfish Management Unit Species (BMUS), focusing on "Deep 7" Monitoring

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PIFSC Insular Fisheries Monitoring Program



Insular Fisheries Monitoring Program (IFMP)

- IFMP monitors, maintains and provides timely access to the best available insular fisheries data for the Pacific Islands Region (PIR)
- Our role within PIFSC includes database design, input, archiving, quality control and support services for summary reporting
- Fisheries catch and effort estimates based on:
 - ✓ Quantitative data on catch and effort (reported or estimated)
 - ✓ Voluntary (most areas) and mandatory (Hawaii commercial)
 - ✓ Statistical and geographic summaries
 - ✓ Summaries of fisheries interactions with non-target species (for analysis of bycatch and ecosystem interactions)
 - ✓ Raw catch and effort data (not expanded) are generally requested to conduct stock assessments

Insular Fisheries Data



- The Insular Fisheries Monitoring Program includes the Western Pacific Fishery Information Network (WPacFIN), which provides collaborative data management support and serves as a data clearinghouse for PIR fisheries agencies from:
 - ✓ Hawaii (Division of Aquatic Resources)
 - ✓ Guam (Division of Aquatic & Wildlife Resources, Bureau of Statistics & Plans)
 - ✓ Commonwealth of the Northern Mariana Islands (CNMI, Division of Fish & Wildlife)
 - ✓ American Samoa (Department of Marine & Wildlife Resources)
- In varying ways these agencies provide two general types of fisherydependent monitoring data:
 - ✓ Fisher, trip, gear or vessel level catch and effort data, with species composition.
 - ✓ Market or sales data by species or group, used to estimate average weight, size composition and value
 - ✓ Resolution (especially by species) may vary within and across data types

Insular Fisheries Data



Data sharing agreements with agencies and vendors, and federal logbooks, support data sharing with proper safeguards for nondisclosure of confidential data:

- ✓ MOU between WPacFIN and each agency enables the FIN to produce nonconfidential data summaries (WPacFIN web data summaries, Fisheries of the US, Fisheries Statistics of the Western Pacific, customized reports and ad hoc data queries)
- ✓ NOAA scientists access confidential data on a "need to know basis", including for stock assessment throughout the region
- ✓ IFMP services 100-150 internal and external data access and summary data requests annually (including for WPacFIN data), with approval from partner agencies and contributors (vendors, fishermen, etc.)
- ✓ Clients include PIFSC scientists, other agencies and institutions, NMFS headquarters, WPacFIN partner agencies, the Council, and the public.
- ✓ This work is prioritized in the time available, based on the existing workload and relative urgency of data and management deadlines



Hawaii BMUS Monitoring Data

- We will focus on data for Hawaii Bottomfish Management Unit Species (BMUS), especially the "Deep 7" species:
 - ✓ Six snappers and one grouper
 - ✓ An intensive effort is made to monitor the "Deep 7", which are under a strict ACL
 - ✓ Other BMUS are caught with the same gear (deep sea handline)

Bottomfish Manag	ement Unit Species (BMUS)
Common Local Name(s)	Scientific name
"DEEP 7" = Seve	en Main Bottomfish Species
Ula'ula Koae/Onaga	Etelis coruscans
Ehu	Etelis carbunculus
Opakapaka 💮 💮 💮	Pristipomoides filamentosus
Calekale	Pristipomoides seiboldii
indai	Pristipomoides zonatus
ehi	Aphareus rutilans
Iapu'upu'u	Hyporthodus quernus
07	THER BMUS
	Snappers
ellowtail Kalekale	Pristipomoides auricilla
ku/Gray or green jobfish	Aprion virescens
a'ape/Bluestripe or blueline sna	pper <i>Lutjanus kasmira</i>
Jacks & Trevallies:	Ulua (adults)/Papio (juveniles)
Aukea/White/Giant Trevally	Caranx ignobilis
ā'uli/Gunkan/ Black Trevally	Caranx lugubris
Butaguchi/ Buta ulua	Pseudocaranx cheilio
Kāhala/Greater Amberjack	Seriola dumerili







Monitoring for the Deep 7 is a Collaborative State-Federal effort

- Hawaii Division of Aquatic Resources (DAR, Department of Land & Natural Resources) provides most staffing & infrastructure, supports online reporting and manages Administrative Rules, enforcement and a civil penalty system for noncompliance.
- PIFSC provides:
 - ✓ Staffing (via a JIMAR grant) supports a core group devoted to fast track monitoring and quality control for Deep 7 (benefiting all fisheries)
 - ✓ JIMAR staff cross-checks reporting by fishermen and dealers & resolves discrepancies
 - ✓ JIMAR staff also conducts outreach to fishermen, managers and fish dealers and provides weekly updates on the status of the quota
 - ✓ WPacFIN provides quality control programming & database support







Monitoring for the Deep 7 is a Collaborative State-Federal effort

The partnership between PIFSC and DAR for Deep 7 monitoring evolved out of the federal requirement to adhere to a Total Allowable Catch (TAC), which evolved into an ACL.

- ✓ DAR struggled with the need for increased staffing to support fast-track monitoring during a period of economic crisis.
- ✓ WPacFIN programming support provided DAR with modules to crossreference dealer and fishermen reported data, but staffing requirements for the project were too great for the State of Hawaii alone.
- ✓ Funding was provided by Congress via the Pacific Islands Regional Office (PIRO), Sustainable Fisheries Division (SFD) and transferred to PIFSC for several years (which contracted via JIMAR).
- ✓ Eventually PIFSC provided funding via JIMAR contract.





Hawaii Deep-7 Bottomfish Monitoring Reporting & Compliance Management Measures

All commercial fishers and first-fish marine dealers are required to report their catch/sales (includes sold to/purchased by).

Since September 1, 2011 (opening 2011 bottomfishing season/year):

- All fishers targeting Deep-7 bottomfish (commercial or non-commercial) are required to get a bottomfish vessel registration annually
- Fishers who land Deep-7 bottomfish are required to submit a trip report within 5 days of the trip end date

Since September 1, 2012 (opening 2012 bottomfishing season/year):

 Civil Resource Violation System notices are sent to commercial bottomfishers who submit the trip report late (incremental fine structure).

~450-480 Deep-7 Bottomfishers annually since 2009 (393 thus far in 2013)

~87% compliance (within 5 days)





DAR: Data Processing Systems

(all receive WPacFIN programming/database support)

- Commercial Marine Licensing System (CMLS)
- Fishermen Reporting System (FRS)
 - ✓ Commercial fishermen mandatory reporting
 - ✓ Includes Online Fishing Report System (OFRS)
 - ✓ Supported by HIC & WPacFIN
- Fish Dealer Reporting System (FDRS)
 - ✓ 1st Fish dealer mandatory reporting
 - ✓ Monthly reporting (not yet online)
- Document Imaging Archival System (DIAS)



FOR OFFICE USE



(Please Print)

DAR: Deep 7 Trip Reporting Form

MHI "Deep 7" Bottomfish Fishing Trip Report

	Licen	see Na	ime	1			Commercial Marine	License No.		R/L K/D		$-\mid$			
	Vess	el Nam	е	0			HA No.	USCG No.							
	Trip Start Date: Month Day Year Trip End Date: Month Day Year Wind Speed (Kt.): check one only O-10 11-15 16-20 21+														
Taka Jawa I				FISH	ING EFF	DRT		SPECIES	(CATCH		ASED			
Trip-level with daily	Day Fished	Buoy or Area Fished	Fishing Method (See Methods List)	Hours Fished per Method/Area	Number of Lines or Loop Nets	No Catch "X"	Port of Landing	Species Name (See Species List)	Number Landed	Lbs. Landed (est.)	Number Lost to Predation	Number Released			
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estimated			Numi	ber	Numb	er	Number			ercanal Cash					
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oycatch		_		_	_	_									





DAR: Marine Dealer Data (reported monthly)

STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES DIVISION OF AQUATIC RESOURCES

D I	NT.		

COMMERCIAL MARINE DEALER'S REPORT ON PURCHASES OF MARINE LIFE

	1. Fish Deale	r	5.	Phone	4. Pag	ge No of	pages
	2. Business Address		5.	Month		6. Y	ear
			7.	Place an "X" in the	he box if you did	not purchase any	marine life.
8. DAY		9. FROM WHOM BOUGHT	COMMERCIAL 10. MARINE LIC. NO.	11. SPECIES	12. LBS. BOUGHT	13. NO. BOUGHT	14. AMOUNT PAID
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		16. Signatu	COMMERCIA	AL MARINE DEALER OR AUTHOR	RIZED AGENT	FOR OF	FICE USE
		uires this report to be filed on	or before the tenth	day following the repo	ort month.	BEOE!! (==	
Mail Y YOU	ellow Copy to JR COPY	E: DIVISION OF AQUATIC RE	ESOURCES			RECEIVED LOGGED	



If no Deep 7 Caught, DSHL Trip Reporting Form Applies

Deep-sea Handline Trip Report

	License	ee Name _					(Commer	cial Mar	ine Li	cense N	o			Port of I	andin	g								K/D		
Still trip-	Vessel	Name				HA	No.				or U	SCG No				<u> </u>	Trip Sta	rt Date	Month	Day	2	O Year	Trip End Date Mo	nth D		0 Year	
level data	Day Fished	Buoy or Area Fished or	FISHING EFF Fishing Method BF = Deep-sea Handline IH = Inshore Handline TL = Trolling with lures	Hours Fished Per	No. of Fishing	No. of Hooks Per	No Catch		Onaga iled red si			Ehu d snappe	,	(Pir	pakapak nk snappe	er)		Species M	lame		Species N		Other Species La Lost and Rel	eased		Num L= Los R= Rel	đ
with daily—	1	Transit	Print in Other Methods	Area	/ Lines	Line	^	No. Landed	Lbs. Landed	No. Lost	No. Landed	Lbs. Landed	No. Lost	No. Landed	Lbs. Landed	No. Lost	No. Landed	Lbs. Landed	No. Lost	No. Landed	Lbs. Landed	No. Lost	Print Species Name	No. Landed	Lbs. Landed	L	R
catch by																											
location,												•															_
effort,																											
species &																											
estimated																											
weight																											
(may be																											_
submitted at the end of																											
the month)	Division		Predators: SHARKS						OT	HER_	Species		/Nui		CORY	nts to	DAR: _							PAGI	E	_of	

FOR OFFICE USE



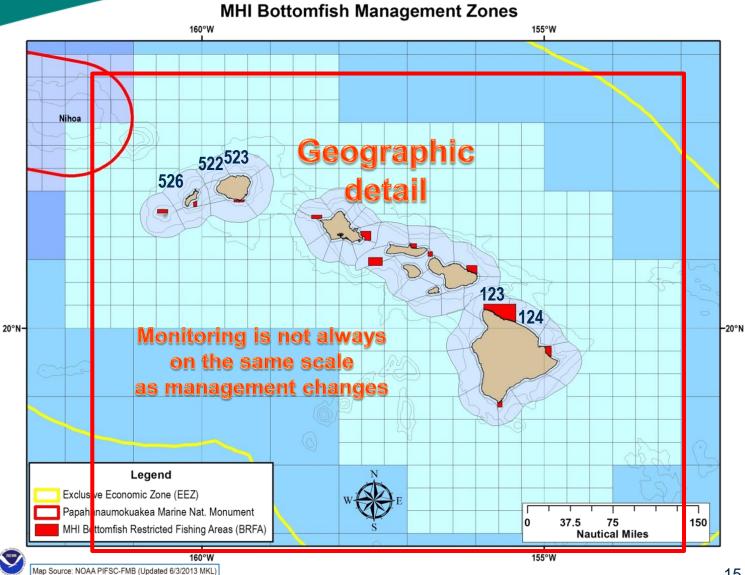
Other Commercial Methods

- If no DSHL used, monthly report with daily catch by location, effort, species & estimated weight applies.
- Traps, nets and other methods report separate form
- System is in transition from monthly to trip-level reporting, with Deep 7 at the forefront
- WPacFIN consolidates the data to maintain historical context & make it easier to find all the data.

(Please	Print)				Fisl	ning	Report		I	R/L	OFFICE U	JSE
License	e Nam	ie				Comm	ercial	Marine License N	io.	_ L	K/D		
Vessel	Name					Н	A No		or USC	G No.		Ш	Ш
Month	& Yea	r Fished _		Monti				20					
			FISHI			T		i cu	SPECIES	CA	TCH .	L	R
Day (Charter Trips "X"	Buoy or Area Fished	Fishing Method (See Methods List)	Hours	Number of Net	Number of Fishing Lines, Traps or Net Length in Feet	Catch	Port of Landing	Species Name	Number	Pounds Landed	Number and Re Fi L = Los R = Rei	of Lo dease sh
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vision of FR 4/200	f Aquatio	Resources,	Department of Land	and Natu	ral Resou	rces, State of	Hawa	ii		Pac	ge	of	

Hawaii Bottomfish Management Zones 180° 175°W 170°W 155°W 160°W Legend Exclusive Economic Zone (EEZ) 30°N--30°N Hancock Seamount Reserve Johnston Atoll Marine National Monument Kure Midway Papahanaumokuakea Marine Nat. Monument Pearl & Hermes Ho'omalish Manag MHI Bottomfish Restricted Fishing Areas (BRFA) 25°N--25°N Mau Zone Main Hawaiian Islands Zone 20°N--20°N Johnston Atoll 15°N--15°N 240 120 0 480 Map Source: NOAA PIFSC-FMB (Updated 5/9/2011 MKL) **Nautical Miles** 170°W 180° 175°W 165°W 160°W 155°W

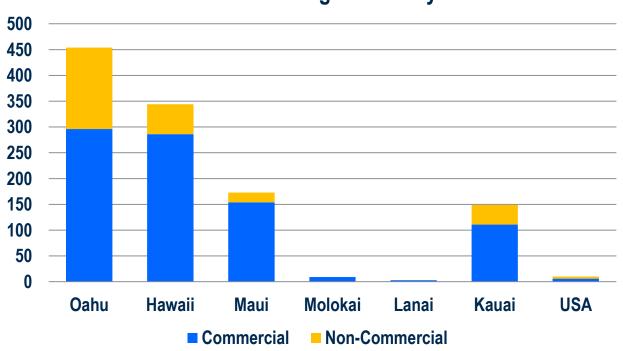






Bottomfish Vessel Registration by Island*

Hawaii Bottomfishing Vessels by Island



76% Commercial 24% Non-commercial

^{*} Information updated August 2014

Commercial Bottomfish Data Processing

Mails Paper Report

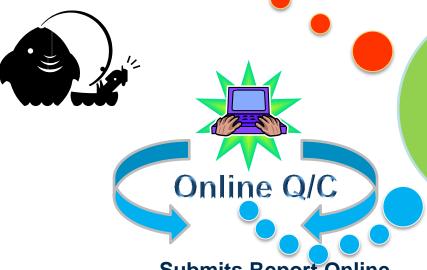
1-3 days travel time

3-7 days

Received by DAR

Scanned

DAR staff enters online (within 2 days)



Online Data Downloaded Daily to FRS

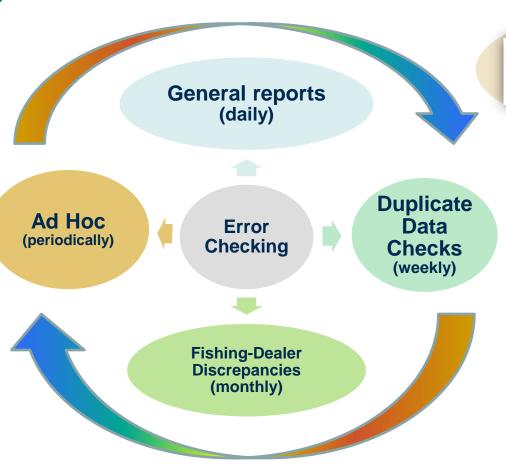


Submits Report Online



1 day

Deep 7 Bottomfish Data Processing (cont'd)



BOTTOMFISH NEWS

Bottomfish
News for
Fishermen &
Fish Dealers
Every 3-4
months

Report to Fisheries Researchers/Managers Weekly



Fisheries and Dealer Data Transferred to WPacFIN

Daily

Quality Control (Q/C) Loops



Reporting & Data Sharing

Other Considerations



- Effect of changing management on monitoring for stock assessment
 - ✓ Size regulations (minimum size for bottomfish)
 - ✓ Closed seasons/areas
 - Trends in total catch and CPUE
 - Completely closed NWHI fishery 2009
 - ✓ ACT/TAC/ACLs (have changed how this fishery performs)
 - Variable closures affecting seasons, pricing & demand
 - Change in number commercial fishermen in response to perceived threat of limited entry & ease of reporting
- Changes in management affects
 - ✓ Number of participants
 - ✓ Reporting effort for fishers
 - ✓ Agency investment and processing requirements
- Question whether the focus on trip-level monitoring for Deep-7 may have affected reporting for non-Deep 7 species.



Questions?